

Table 5-1
Summary Statistics for Dioxin and Furan Concentrations in Surface Soil Samples from the TxDOT Right-of-Way and North of I-10

Analyte	Units	Number of Samples	Number of Detected Measurements	Detection Frequency	Detected Data		All Data
					Minimum	Maximum	Mean
Area 1							
2,3,7,8-TCDD	ng/kg	31	13	42%	0.318	6.58	1.05
1,2,3,7,8-PeCDD	ng/kg	31	10	32%	0.159	1.96	0.294
1,2,3,4,7,8-HxCDD	ng/kg	31	18	58%	0.0802	2.5	0.585
1,2,3,6,7,8-HxCDD	ng/kg	31	24	77%	0.381	16.3	2.97
1,2,3,7,8,9-HxCDD	ng/kg	31	25	81%	0.169	8.03	2.03
1,2,3,4,6,7,8-HpCDD	ng/kg	31	31	100%	0.829	1,010	117
OCDD	ng/kg	31	31	100%	17.1	35,400	3,670
2,3,7,8-TCDF	ng/kg	31	22	71%	0.506	26	5.28
1,2,3,7,8-PeCDF	ng/kg	31	9	29%	0.114	4.91	0.483
2,3,4,7,8-PeCDF	ng/kg	31	14	45%	0.248	7.68	0.828
1,2,3,4,7,8-HxCDF	ng/kg	31	28	90%	0.071	29.2	3.07
1,2,3,6,7,8-HxCDF	ng/kg	31	16	52%	0.155	11.2	1.11
1,2,3,7,8,9-HxCDF	ng/kg	31	3	10%	0.0974	0.868	0.138
2,3,4,6,7,8-HxCDF	ng/kg	31	17	55%	0.119	4.42	0.834
1,2,3,4,6,7,8-HpCDF	ng/kg	31	29	94%	0.0805	103	16.2
1,2,3,4,7,8,9-HpCDF	ng/kg	31	19	61%	0.18	19.8	1.89
OCDF	ng/kg	31	30	97%	0.93	700	94.4
TEQ _{DF,M}	ng/kg	31	31	100%	0.456	27.2	5.7
Area 2							
2,3,7,8-TCDD	ng/kg	12	8	67%	0.434	46.5	6.39
1,2,3,7,8-PeCDD	ng/kg	12	7	58%	0.153	1.03	0.371
1,2,3,4,7,8-HxCDD	ng/kg	12	9	75%	0.103	1.65	0.650
1,2,3,6,7,8-HxCDD	ng/kg	12	11	92%	0.118	7.88	2.96
1,2,3,7,8,9-HxCDD	ng/kg	12	11	92%	0.221	5.47	2.12
1,2,3,4,6,7,8-HpCDD	ng/kg	12	12	100%	5.28	319	103
OCDD	ng/kg	12	12	100%	229	6,870	2,290
2,3,7,8-TCDF	ng/kg	12	10	83%	0.581	161	23.8
1,2,3,7,8-PeCDF	ng/kg	12	8	67%	0.19	5.47	0.983



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					Minimum	Maximum	Mean
2,3,4,7,8-PeCDF	ng/kg	12	8	67%	0.264	3.73	0.875
1,2,3,4,7,8-HxCDF	ng/kg	12	10	83%	0.677	6.12	2.37
1,2,3,6,7,8-HxCDF	ng/kg	12	8	67%	0.266	1.82	0.884
1,2,3,7,8,9-HxCDF	ng/kg	12	0	0%	NA	NA	0.0595
2,3,4,6,7,8-HxCDF	ng/kg	12	10	83%	0.219	2.94	1.08
1,2,3,4,6,7,8-HpCDF	ng/kg	12	11	92%	1.87	61.1	16.7
1,2,3,4,7,8,9-HpCDF	ng/kg	12	9	75%	0.347	4.29	1.32
OCDF	ng/kg	12	11	92%	6.39	347	85.5
TEQ _{DFM}	ng/kg	12	12	100%	0.212	66.1	12.4
Area 3							
2,3,7,8-TCDD	ng/kg	9	9	100%	0.575	8,650	2,120
1,2,3,7,8-PeCDD	ng/kg	9	7	78%	0.369	57.2	17.7
1,2,3,4,7,8-HxCDD	ng/kg	9	3	33%	0.163	0.750	0.241
1,2,3,6,7,8-HxCDD	ng/kg	9	4	44%	0.910	6.54	1.44
1,2,3,7,8,9-HxCDD	ng/kg	9	8	89%	0.151	3.34	0.961
1,2,3,4,6,7,8-HpCDD	ng/kg	9	9	100%	3.00	191	49.0
OCDD	ng/kg	9	9	100%	118	2,350	799
2,3,7,8-TCDF	ng/kg	9	9	100%	2.88	20,600	6,680
1,2,3,7,8-PeCDF	ng/kg	9	8	89%	3.6	959	313
2,3,4,7,8-PeCDF	ng/kg	9	8	89%	2.48	465	156
1,2,3,4,7,8-HxCDF	ng/kg	9	9	100%	0.207	2,110	665
1,2,3,6,7,8-HxCDF	ng/kg	9	8	89%	1.70	498	149
1,2,3,7,8,9-HxCDF	ng/kg	9	6	67%	0.359	25.5	8.43
2,3,4,6,7,8-HxCDF	ng/kg	9	7	78%	1.14	69.7	23.9
1,2,3,4,6,7,8-HpCDF	ng/kg	9	8	89%	2.11	668	189

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					Minimum	Maximum	Mean
1,2,3,4,7,8,9-HpCDF	ng/kg	9	7	78%	2.83	244	72.9
OCDF	ng/kg	9	8	89%	3.74	363	104
TEQ _{DF,M}	ng/kg	9	9	100%	1.02	11,200	2,950

Notes

Mean calculations include detected and nondetected values. Nondetected values were set to one-half the detection limit.

Surface is defined as any sample with an upper depth of 0 feet.

NA = not applicable, no detected values

TEQ_{DF,M} (ND=1/2DL) = Toxicity equivalent for 2,3,7,8-tetrachlorinated dibenzo-p-dioxin (TCDD) calculated using dioxins and furans and mammalian toxicity equivalency factors (Van den Berg et al. 2006) with nondetects set at one-half the detection limit.

TxDOT = Texas Department of Transportation